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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/589,267	08/14/2006	Katsutoshi Sato	294929US8PCT	6043

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OBLON, SPIVAK, MCCLELLAND MAIER & NEUSTADT, P.C.
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ALEXANDRIA, VA 22314

EXAMINER

FISCHER, MARK L

ART UNIT	PAPER NUMBER
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2627

NOTIFICATION DATE	DELIVERY MODE
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ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

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Office Action Summary	Application No. 10/589,267	Applicant(s) SATO, KATSUTOSHI	
	Examiner MARK FISCHER	Art Unit 2627	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 04 December 2008.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-14 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-14 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 14 August 2006 and 04 December 2008 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

1. This Office Action is in response to the Amendment filed on December 4, 2008. Claims 1, 2, 6-8, and 12-14 are currently amended, and Claims 3-5 and 9-11 are original.

Claim Objections

2. Claims 1, 7 and 14 are objected to because of the following informalities:
- Claim 1, "light beams thus converged" (lines 9-10), "undergo drive displacement" (line 17), "the recording surface" (lines 18-19), "the axis of the radial direction" (line 21), "the axis of a tangential direction" (line 22), "aberration correcting means" (line 24), and "comatic aberration" (line 24) should be changed to --light beams converged--, --undergo a drive displacement--, --a recording surface--, --an axis of the radial direction--, --an axis of a tangential direction--, --an aberration correcting means--, and --a comatic aberration--, respectively.
 - Claim 2, "comatic aberration" (line 2) should be changed to --the comatic aberration--.
 - Claim 4, "light beams" (line 2) and "light beams" (line 3) should be changed to --the light beams-- and --the light beams--, respectively.
 - Claim 5, "the state" (line 2) should be changed to --a state--.
 - In claim 7, many of the claim limitations end with a comma (,) and they should be changed such that they end with a semicolon (;).
 - Claim 7, "disc rotational operation means" (line 2), "the signal recording surface" (lines 4-5), "drive displacement" (line 22), "the axis in the radial direction" (line 26), "the axis of a tangential direction" (line 27), "aberration correcting means" (line 29),

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- and “comatic aberration” (line 29) should be changed to --a disc rotational operation means--, --a signal recording surface--, --a drive displacement--, --an axis in the radial direction--, --an axis of a tangential direction--, an aberration correcting means--, and --a comatic aberration--, respectively.
- Claim 10, “light beams” (line 2), “the wavelength” (line 2), and “light beams” (line 3) should be changed to --the light beams--, --the first wavelength--, and --the light beams--, respectively.
 - Claim 11, “the state” (line 2) should be changed to --a state--.
 - Claim 13, “drive displacement” (line 21), “the recording surface” (line 22), “the axis in the radial direction” (lines 24-25), “the axis in a tangential direction” (line 26), and “comatic aberration” (lines 30-31) should be changed to --a drive displacement--, --a recording surface--, --an axis in the radial direction--, --an axis in a tangential direction--, and --a comatic aberration--, respectively.
 - Claim 14, “optical pick-up device” (line 1) and “refractive index” (line 4) should be changed to --the optical pickup device-- and --a refractive index--, respectively.

Appropriate correction is required.

Claim Rejections - 35 USC § 112

3. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

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4. Claims 13 and 14 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

- Claim 13, line 2 recites the limitation “the optical pick-up device comprising:” (i.e. an apparatus), but then proceeds to recite limitations of a method which is confusing.
- Claim 13 recites the limitation "the first object lens" in 10 and “the second object lens” in line 15. There is insufficient antecedent basis for these limitations in the claim.
- Claim 13, lines 30-33 recites the limitation “comatic aberration of the optical system one of the radial tilt direction and the tangential tilt direction” which does not appear to be complete.
- Claim 14 recites the limitation "the aberration correcting means" in line 3. There is insufficient antecedent basis for this limitation in the claim.

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35

U.S.C. 103(a) are summarized as follows:

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1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

7. Claims 1-4, 6-10, and 12-14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kim et al. (US Pub. No. 2004/0114495 A1, hereinafter Kim) in view of Ogasawara (US Pat. No. 6,141,304).

Regarding claim 1, Kim discloses an optical pick-up device (Fig. 2) comprising: a first light emitting element (11) for emitting first light beams (11a) having a first wavelength; a second light emitting element (20) for emitting second light beams (21a) having a second wavelength; a third light emitting element (30) for emitting third light beams (31a) having a third wavelength; a first optical system including a first object lens (45), and serving to converge, by the first object lens, one of the first, second, or third light beams emitted from the first, second, or third light emitting element to irradiate the light beams thus converged by the first object lens (45) onto an optical disc (see Fig. 3); a second optical system including a second object lens (41), and serving to converge, by the second object lens, one of the first, second, or third light beams emitted from the first, second, or third light emitting element to irradiate the light beams converged by the second object lens (41) onto the optical disc (see Fig. 3); an object lens drive unit (Fig. 3, element 40) including a bobbin (50) that holds the first and second object lenses, and serves to allow the bobbin to undergo drive displacement in a focusing direction perpendicular to the recording surface of the optical disc, a tracking direction which is a substantially radial direction of the optical disc, and one of a radial tilt direction in which movement is performed in a circular arc form on the axis of the radial direction and a tangential tilt direction in which

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movement is performed in a circular arc form on the axis of a tangential direction which is a direction perpendicular to the radial direction (¶ [0130]); and aberration correcting means for correcting comatic aberration of the second optical system relatively taking place with respect to the first optical system in one of the radial tilt direction and the tangential tilt direction, which is not controlled by the object lens drive unit, (¶¶ [0118], [0119], [0192] and [0193]). While Kim discloses aberration correcting means that affects aberration correction in an optical path of the second optical system while not affecting an optical path of the first optical system (i.e. out of an optical path of the first optical system), Kim does not explicitly disclose that the aberration correcting means is arranged in an optical path of the second optical system between one of the first, second, or third light emitting element and the second optical system. However, Ogasawara discloses (see Fig. 1) that comatic aberration can be corrected (Col. 7, lines 59-65) by arranging an aberration correcting means (3) in an optical path of an optical system (5) between a light emitting element (1) and the optical system (5). Since Kim discloses aberration correcting means for the light paths of the second optical system (41) and the absence of aberration correcting means for the light path of the first optical system (45), it would have been obvious to one of ordinary skill in the art at the time the invention was made to replace the aberration correcting means of Kim with the aberration correcting means of Ogasawara, such that aberration is corrected while the aberration correcting means remains out of an optical path of the first optical system (45) of Kim. The motivation for combination would be to substitute the aberration correcting means of Kim with another well-known aberration correcting means.

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Regarding claim 2, Ogasawara discloses that the aberration correcting means corrects comatic aberration by changing a refractive index of a region intersecting a path of one of the first, second, or third light beams (Col. 7, lines 59-65).

Regarding claim 3, Kim discloses that the first wavelength is about 405 nm (¶ [0089]), the second wavelength is about 660 nm (¶ [0092]), and the third wavelength is about 785 nm (¶ [0093]).

Regarding claim 4, Kim discloses that (see Fig. 2) light beams having the first wavelength (11a) are incident on the first object lens (45), and light beams having the second (21a) and third (31a) wavelengths are incident on the second object lens (41).

Regarding claim 6, Ogasawara discloses that the aberration correcting means includes a liquid crystal correcting device (Col. 7, lines 59-65).

Regarding claim 7, Kim discloses an optical disc apparatus (Fig. 2) comprising: disc rotational operation means (19) for performing rotational operation of an optical disc; and an optical pick-up device (Fig. 2) configured to scan, by light beams, the signal recording surface of an optical disc operated by the disc rotational operation means to perform recording or reproduction of information, the optical pick-up device comprising: see rejection of claim 1.

Regarding claim 8, Ogasawara discloses that the aberration correcting means changes a refractive index of a region intersecting a path of the first, second, or third light beams (Col. 7, lines 59-65).

Regarding claim 9, Kim discloses that the first wavelength is about 405 nm (¶ [0089]), the second wavelength is about 660 nm (¶ [0092]), and the third wavelength is about 785 nm (¶ [0093]).

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Regarding claim 10, Kim discloses that (see Fig. 2) light beams having the first wavelength (11a) are incident on the first object lens (45), and light beams having the second (21a) and third (31a) wavelengths are incident on the second object lens (41).

Regarding claim 12, Ogasawara discloses that the aberration correcting means includes a liquid crystal correcting device (Col. 7, lines 59-65).

Regarding claim 13, see the rejection of claim 1.

Regarding claim 14, Ogasawara discloses that the aberration correcting means includes a liquid crystal correcting device, and serves to apply a voltage to the liquid crystal correcting device to control refractive index to correct comatic aberration (Abstract and Col. 7, lines 59-65).

8. Claims 5 and 11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kim in view of Ogasawara further in view of Kanaya et al. (US Pub. No. 2006/0077784 A1, hereinafter Kanaya).

Regarding claim 5, Kim discloses that the first and second object lenses are held at the bobbin in the state arranged in the radial direction (see Fig. 6), but does not disclose that the first and second object lenses are held at the bobbin in the state arranged in the tangential direction. However, Kanaya discloses arranging first and second object lenses in a tangential direction (see Fig. 4B). It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the teachings of Kim in view of Ogasawara with Kanaya with the motivation to allow the objective lens disposed on the outer side to access a region of a disk at the innermost periphery (¶ [0008]).

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Regarding claim 11, Kim discloses that the first and second object lenses are held at the bobbin in the state arranged in the radial direction (see Fig. 6), but does not disclose that the first and second object lenses are held at the bobbin in the state arranged in the tangential direction. However, Kanaya discloses arranging first and second object lenses in a tangential direction (see Fig. 4B). It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the teachings of Kim in view of Ogasawara with Kanaya with the motivation to allow the objective lens disposed on the outer side to access a region of a disk at the innermost periphery (§ [0008]).

Response to Arguments

9. Applicant's amendments to the disclosure and the claims (discussed in Remarks, Page 11, line 15 to Page 12, line 2) are accepted.

10. Applicant's arguments with respect to the claims have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

11. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after

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the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to MARK FISCHER whose telephone number is (571) 270-3549. The examiner can normally be reached on Monday-Friday from 9:00AM to 6:30PM EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Hoa Nguyen can be reached on (571) 272-7579. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Mark Fischer/

Examiner, Art Unit 2627

2/4/2009

/HOA T NGUYEN/

Supervisory Patent Examiner, Art Unit 2627